

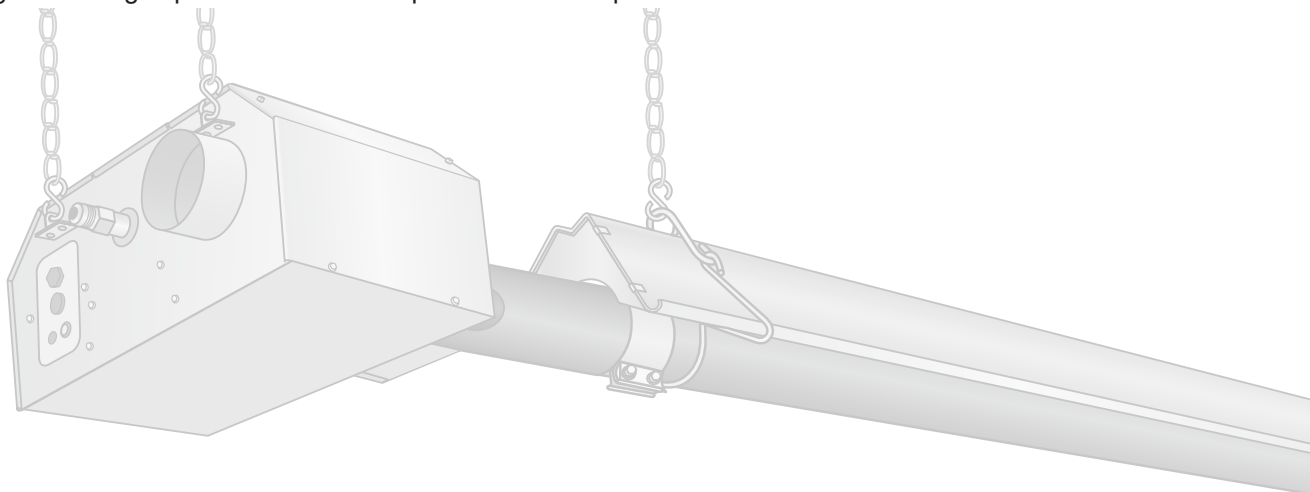
Tube Heater Packing List

Heaters & Accessories

Effective 09-01-15

mm-dd-yy

All orders are subject to acceptance by Brant Radiant Heaters Limited, Paris, Ontario at prices in effect at date of shipment. All prices are F.O.B. Paris, Ontario. All Province, Federal, or Municipal taxes in effect at the time of shipment or imposed at any future time on our products shall be the responsibility of the customer. We reserve the right to change specifications on our products without prior notice to the customer.



Gas-Fired, Low Intensity, Infrared Tube Heaters

34 Scott Ave., Paris, Ontario N3L 3R1

Phone: 519-442-7823 • Fax: 519-442-7321

www.brantradiant.com • sales@brantradiant.com

15% restocking charge on any returned items.

TABLE OF CONTENTS

Helpful Steps to Prices	Page 2	Single & Two-Stage T-Stats	Page 7
Tube Heater Models & Prices	Page 3	Stainless Steel Options	Page 8
Add-On Options & MP Accessories.....	Page 4	3" & 4" Venting Accessories.....	Page 9
Extensions, Hardware & Misc. Accessories	Page 5	Advanced Controls, & Electrical Components.....	Page 10
Quantity & Misc. Accessories	Page 6	Burner & Kit Pricing	Page 11

Replacement parts information is available online at www.reverberray.com/parts and in the product manual.

The following key symbols (found within) designate the following:

SYMBOL	DESCRIPTION
<u>Underlined Item</u>	New item or price, from prior accessory guide, or heater price sheet.
Part No. in BOLD	An item that has further technical information available, ex.: spec sheet, instructions, etc.

Note: Add-ons must be ordered as a separate line item and tagged to the appropriate heater.

BULK PACK ORDERS Please TAG: Job Name on purchase order to help us be made aware that an order can be bulk packed to destination. 10' skid, charge \$35.00 available on request.

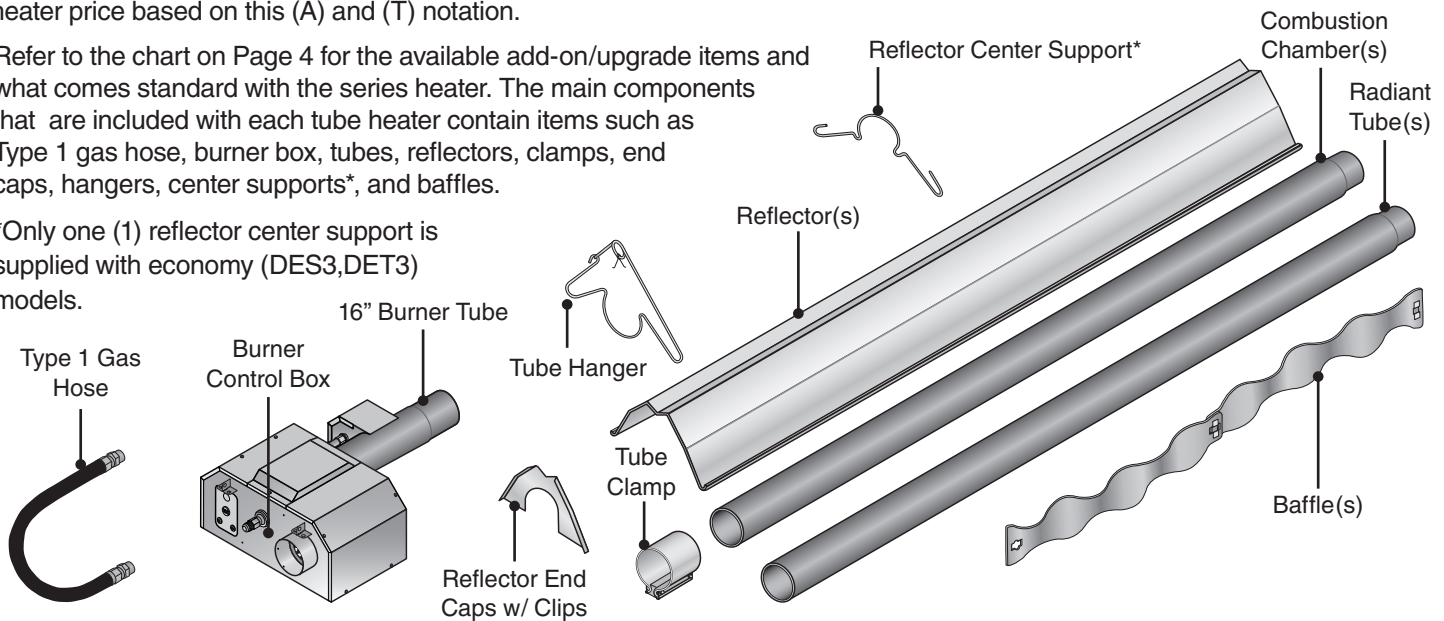
HELPFUL STEPS WHEN PRICING LOW INTENSITY TUBE HEATERS

Step 1: Heater Selection (Pages 3-4)

Refer to the chart on Page 3 for available model heaters based on series, tube length, BTU and gas type. Gas type **MUST** be indicated on all orders. The Available Models chart denotes each heater model column with a letter (A) or (T) which indicates the combustion chamber tube material for that model. (A) indicates an aluminized combustion tube and (T) indicates a titanium stabilized combustion tube. NOTE: This does not apply for stainless steel model heaters. Be sure to use the correct tube heater price based on this (A) and (T) notation.

Refer to the chart on Page 4 for the available add-on/upgrade items and what comes standard with the series heater. The main components that are included with each tube heater contain items such as Type 1 gas hose, burner box, tubes, reflectors, clamps, end caps, hangers, center supports*, and baffles.

*Only one (1) reflector center support is supplied with economy (DES3,DET3) models.



Step 2: Accessory Selection (Pages 4-5)

Chain sets (P/N: THCS) or gripple cables (P/N: THGH10) are typically necessary for hanging each heater (refer to page 5 for required quantities). Additional accessories such as 90° elbows, "U" fittings, protective guards, side shields and decorative grills may be used. There are also options to upgrade certain features to stainless steel. Refer to the descriptions of each accessory for further details.

Step 3: Controls Selection (Page 6)

Single-stage, two-stage, advanced controls and modulating controls (page 4) are available. When heaters are common vented or common intake, they **MUST** be controlled by the same thermostat.

Single-stage heaters are built standard for 120V controls but have options for 24V controls, except LS3 Series heaters 24V is standard. The most common option is the use of one relay transformer (P/N: R8285B) per 24V thermostat as there are no heater modifications necessary with this option. Another option is to specify the 24-volt add-on (P/N: 24VAO) per heater at time of ordering. An external transformer (P/N: 4000-01V) is also needed per thermostat with this option.

Two-stage heaters are built standard for 24V controls. When using a single heater to a single thermostat on the HL Series and the LD3 Series models, there is no need for additional components because the internal 24V of the heater can power the thermostat. When installing more than one heater onto the same thermostat, one HLRP(B) relay add-on is necessary per heater. Scenarios that have the relays installed will also need one external transformer (P/N: 4000-01V) per thermostat. If the relay add-ons are forgotten or not known at the time of order, there are external panels (refer to page 6) that can be purchased that will allow for multiple heaters to be controlled by the same 24V thermostat.

Modulating heaters have control options for specific needs. Refer to the MP controls section (page 4) and consult the factory if further support is needed.

Step 4: Venting Selection (Page 8)

Sidewall or rooftop venting accessories include 3", 4", or 6" options. Basic applications should include a sidewall vent kit or a rooftop vent kit. When common venting two or more heaters together refer to the dual vent material options. (For 6" venting refer to page 5)

Step 5: Extended Warranties (Page 10)

All limited warranties are defined in the product insert manual for the particular series of heaters. We have additional extended warranties available on page 9. Please note, extended warranties cover manufacture defects. If you have special circumstances when bidding a job, please contact the factory for pricing support.

LOW INTENSITY TUBE HEATERS

Commercial & Industrial Heaters

SERIES	20 FT.	25 FT.	30 FT.	40 FT. (A)	40 FT. (T)	50 FT. (A)	50 FT. (T)	60 FT.	70 FT.	80 FT.
MP	N/A									N/A
HL2/HL3		N/A								N/A
DX2/DX3		N/A								
DET3		N/A							N/A	N/A
DES3		N/A								N/A
SV		N/A								

NOTE: See Available Models chart below for combustion chamber tube construction. (A) Aluminized or (T) Titanium.

AVAILABLE MODELS

[illegible]

**** Additional Models Available, Consult Factory**

Stainless Steel Commercial & Industrial Heaters(Harsh Enviroments)

SERIES	20 FT.	30 FT.	40 FT.	50 FT.	60 FT.
HL-SS					
DX-SS					

AVAILABLE MODELS

MODEL	FT-BTU-GAS											
	20-75 N or P	30-75 N or P	30-100 N or P	40-75 N or P	40-100 N or P	40-125 N or P	40-150 N or P	50-100 N or P	50-125 N or P	50-150 N or P	60-125 N or P	60-150 N or P
Comb. Tube	A	A	A	A	A	A	T	A	A	T	A	T
HL-SS ^{**}	•	•	•	•	•	•	•	•	•	•	•	•
DH-SS ^{**}	•	•	•	•	•	•	•	•	•	•	•	•

Low BTU/Select Residential Heaters

SERIES	10 FT.	15 FT.	20 FT.	30 FT.
LD3	N/A			
LS3				

AVAILABLE MODELS

MODEL	FT-BTU-GAS	10-25 N or P*	10-30 N or P*	10-40 N or P	15-25 N or P*	15-30 N or P*	15-40 N or P*	15-50 N or P	20-40 N or P*	20-50 N or P	30-50 N or P*
Comb. Tube		A	A	A		A	A	A	A	A	A
LD3							•	•	•	•	•
LS3		•	•		•	•	•	•	•	•	•

Low Clearance Heaters

SERIES	30 FT.	40 FT.	50 FT.	60 FT.
CL				
CX				

AVAILABLE MODELS

	MODEL FT-BTU-GAS
Comb. Tube	A 30-50 N or P*
CL	A 30-60 N or P
CX	A 30-65 N or P
	A 40-50 N or P
	A 40-60 N or P
	A 40-65 N or P
	A 40-75 N or P
	A 40-80 N or P
	A 50-75 N or P
	A 50-80 N or P
	A 50-100 N or P
	A 60-100 N or P

Shipping/Boxing

All models are shipped with 1) 30 in. Type 1 Rubber Hose **RH-1/2 or RH-3/4** and reflector center supports **TP-82** (BR-4IH) for each 10 ft. section. All hangers **TP-19B**(BR-4HGR) are included for 10 ft. center mounts clamps are located directly on pipes **TP-21B** (TP-21). Also a pair of End Cap Reflectors with clips **BR-ECR** and a user manual.

ADD-ON / UPGRADE ITEMS

PART NO.	DESCRIPTION	LIST \$						
SILSEAL	Control box is silicone sealed, PC-36 added and electrical attachments are water-tight connections (i.e T-stat wire, power connection). This seal is to protect the internal components against site contaminants, such as Carwash applications. Standard on all stainless steel heaters.							
OD-KIT	Outdoor approval kit for HL2, DX2, HL3, DX3, LS3, LD3, CL and CX Series. For use when applying heaters outdoor. Includes: PC-36, 24V control cord (when applicable), SILSEAL, 90° air inlet cap. (WIV-4)							
ALUM-AO	Upgrade hot rolled steel radiant tubes to black coated 16ga. aluminized steel for maximum efficiency and longevity. Highly recommended in any contaminated or moisture laden environment. DET3 and DES3 Series models only.							
Required ALUM-AO per Heater*								
MODEL	10'	20'	30'	40'	50'	60'	70'	80'
STRAIGHT	N/A	1	2	3*	4*	5*	6*	7*

PART NO.	DESCRIPTION	LIST \$
For 3" Models	This option substitutes one 10' tube & reflector for two 5' sections. One clamp and one hanger packed with pipes is added to existing accessories supplied. This is ideal for making "U" heaters from 30', 50' & 70' models. Maximum one per unit, add-on option only.	
DB-5EA-SUB		
For 4" Models		
5EA-SUB		
"DES/DET" Series		
CR-5EA-SUB		
24-VAO	24V controls for DX series heaters. Internal relay and transformer for ease of operation to a stand-alone unit.	
24-VAOX	Internal relay and not included separate external transformer (HL-T) required for multiple units to be controlled on one stat.	
HLRB	Optional internal relay for HL2 and LD3 Series heaters. See page 6 for details.	
HLRP	Optional internal dual relays for HL3 Series heaters. See page 6 for details.	

*150,000-200,000 Btu/h models require one less ALUM-AO.




NOTE: Refer to chart below for add-on & upgrade option availability. See page 7 for stainless steel accessories.

AVAILABLE OPTIONS																							
MODEL	SILSEAL	OD-KIT	PC-36	24VAO	HLRB / HLRP	5EA-SUB	ALUM-AO	SSCBAO	SSTAO	SSTAO-5	SSRAO	SSRAO-5	SSTRAO	SSTRAO-5	SSC-##	SSB-##	SSE-SS	CWO	EWO	VPWO	Type 1 Hose	GC-50 “Valve”	
HL2	O	O	S	S	O	O	S	O	X	X	O	O	X	X	O	O	O	O	O	N	S	O	
DX2	O	O	S	O	N	O	S	O	X	X	O	O	X	X	O	O	O	O	O	N	S	O	
HL3	O	O	S	S	O	O	S	N	X	X	O	O	X	X	O	O	O	O	O	N	S	O	
DX3	O	O	S	S	N	O	S	N	X	X	O	O	X	X	O	O	O	O	O	N	S	O	
DET3	O	O	S	S	O	O	O	N	X	X	O	O	X	X	O	O	O	O	O	N	S	O	
DES3	O	O	S	O	N	O	O	N	X	X	O	O	X	X	O	O	O	O	O	N	S	O	
LD3	O	O	S	S	O	O	S	N	N	N	O	O	N	N	N	N	O	O	O	N	S	O	
LS3	O	O	S	S	N	O	S	N	N	N	O	O	N	N	N	N	O	O	O	N	S	O	
CL	O	O	S	S	O	O	S	O	N	X	O	O	X	O	O	O	O	O	O	N	S	O	
CX	O	O	S	S	N	O	S	O	N	X	O	O	X	O	O	O	O	O	O	N	S	O	
HLV-2	O	N	O	S	S	O	O	O	X	X	O	O	X	X	O	O	O	O	O	O	S	O	
SV	O	N	N	N	N	O	S	O	X	X	O	O	X	X	O	O	O	O	O	N	S	O	
HL-SS	S	O	S	S	O	O	N	S	X	X	S	O	X	X	S	S	O	O	O	N	S	O	
DX-SS	S	O	S	S	N	O	N	S	X	X	S	O	X	X	S	S	O	O	O	N	S	O	




OPTIONS KEY	
O	Option Available.
N	Option Not Available.
S	Standard Feature.
X	Available in BTU Range of 75,000-150,000 Only.

IMPORTANT: Specify add-on item at time of order. **Be sure to tag appropriate heater for add-on.**




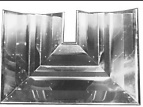
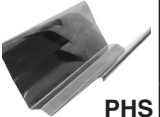


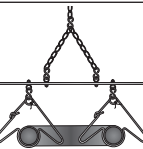
MP SERIES CONTROL OPTIONS

PART NO.	DESCRIPTION	LIST \$	PART NO.	DESCRIPTION	LIST \$
 PUI	This advanced microprocessor based controller, loaded with powerful and custom features, is a smart logic controller that offers optimal performance out of your MP Series heater . Allows heater(s) to modulate will full PID controller that considers various inputs and outputs, utilizes the current set temperature (based on an on-board thermistor or an externally connected zone sensor), mode selected, and other variables to determine the rate of modulation. Optional integration with remote sensors (sold separately).		 MP-P	Potentiometer. Used to control MP Series heater(s) in outdoor or spot heating environments to allows the user to manually control the heater's firing rate based on the dial position.	
			 MP-T	Thermistor option for when using a single stage controller.	
			MP-T-OD	Outdoor Sensor Option.	

EXTENSION ACCESSORIES

PART NO.	DESCRIPTION	LIST \$	PART NO.	DESCRIPTION	LIST \$
 10EA	Ten foot heater extension assembly includes ten foot, 4" diameter, 16 gauge, aluminized steel tube with high temperature black coating, ten foot reflector, 4" reflector center support, 4" tube clamp and one 4" hanger and 2 clips.		 10HRE	Ten foot heater extension assembly includes ten foot, 4" diameter, 16 gauge, hot rolled steel tube with blackened appearance, ten foot reflector, 4" tube clamp and one 4" hanger and 2 clips No RCS center support is included. This extension must be shipped via truck line.	
20EA	2) 10EAs in one box.		20HRE	2) 10HREs in one box.	
30EA	3) 10EAs in one box.		30HRE	3) 10HREs in one box.	
TR-C	Titanium Extension Assembly, ten foot titanium tube ten foot reflector, 4" reflector center support, 4" s.s tube clamp and one 4" hanger and 2 clips.		HRE-60	Five foot heater extension assembly. See 10 HRE for contents and specs.	
TR-60	Five foot aluminum heater extension assembly, five foot aluminum tube, five foot reflector, 4" reflector center support, 4" tube clamp and one 4" hanger and 2 clips.		 DB-10EA	Ten foot heater extension assembly includes ten foot, 16 gauge, 3 in. diameter, aluminized steel tube with high temperature black coating, ten foot reflector, 3 in. reflector center support, 3 in. tube clamp and one 3 in. hanger and 2 clips.	
			DB-TR60	Five foot aluminum heater extension assembly includes 5 ft., 16 ga., 3 in. diameter, See DB-10EA for accessories included.	

MISCELLANEOUS HARDWARE ACCESSORIES





 E6	Elbow - 6" radius, 90° bend, 4" diameter 16 gauge aluminized steel with black coating, one tube clamp, one hanger. Consult IOM for minimum distance from burner. Sq. dimension 15" x 15."		 TF1B	180° bend (U) shaped fitting, used to make a U shaped configuration. 16 gauge aluminized steel, 4" dia. fitting, with high temperature black coating. Also included: 1 tube clamp, 1 wire hanger, 1 center support hanger, 1 spreader bar. Adds 14" to overall unit length, center to center 16". Consult Manual for minimum distance from burner.	
 RE	Reflector Elbow - 90° bend, with polished, one side bright reflector elbow, 2 reflector brackets and screws. Designed to fit atop one elbow (not included). Sq. dimension 27" x 27." Field assembly required. (Specify 45° assembly)		 RU	Reflector "U" to cover a TF1B "U" fitting (not included). 180° bend "U" reflector for attachment to standard reflectors covering the end of a "U" configuration. Polished, one side bright aluminum, 4 reflector brackets and screws. Reflectors cannot be rotated after installation of this accessory.	
REP	Reflector and elbow package - One RE and one E6. Consult IOM for minimum distance to burner. No end caps or clips included.		RUP	Reflector and "U" bend package - One TF1B and one RU. Consult Manual for minimum distance to burner.	
 PHS	Protective Heat Shield. For use on 0° mounted reflectors only. 30" x 12" 304 grade stainless steel. For attachment below reflector in heat sensitive areas.		 45E	45° elbow assembly 4-1/2" radius, 16 gauge aluminized steel with high temperature black coating. 4" diameter, one tube clamp, one hanger. Consult IOM for minimum distance from burner.	
 SSE	62" long x 10-1/2" wide. Side shield extension polished one side bright, used to direct infrared rays downward - away from sidewalls and combustibles with two 0° mounting brackets, 8 screws and 2 brackets. NOTE: Two (2) SSE required to span each 10-ft reflector section. Maintain published clearances when using this accessory.		 SMB	Single mount bracket for use on U-shaped configured heaters. Bracket allows installation from one suspension point, as opposed to two. Bracket also assures uniform spacing between opposing tubes. See chart below for quantity needed. Included: (1) Single mount bracket (2) Eye bolt NOTE: Two (2) THCS required to mount burner control box.	

REQUIRED SINGLE MOUNT BRACKET (SMB) PER HEATER


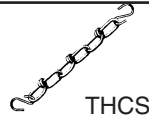



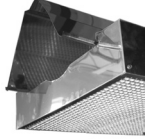
Model Length	10'	20'	30'	40'	50'	60'	70'	80'
w/TF1B ("U")	N/A	2	3*	3	4*	4	5*	5


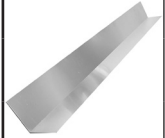

* Model requires 5EA-SUB accessory package when installing in a U-shaped configuration.

OTHER ACCESSORIES



 GC-50	CSA Design Certified ball valve, 2 PSI maximum pressure, 1/2" x 1/2" FPT, with 1/8" NPT side pressure tap.		 RH-1	30 in. (1/2" I.D.) rubber hose connector for low intensity heaters applied in Canada (25 - 125 MBH).	
 BR-SIGN	Clearance Safety Limit Sign. 8.5" x 11". Sign is designed to be hung or adhere at clearance to combustibles limit. Repeats clearance warnings.		 RH-3	30 in. (3/4" I.D.) rubber hose connector for low intensity heaters applied in Canada (150 - 200 MBH).	

MISCELLANEOUS HARDWARE ACCESSORIES





PART NO.	DESCRIPTION	LIST \$
 THGH10	Gripple tube heater hanging cables. 10 foot length of looped cable with a locking fastener per assembly. Working load limit of 100 lbs. with 5:1 load safety ratio.	
 THCS	Five foot chain set with 2 "S" hooks used for hanging heater. Bulldog coil chain, trade size #1, wire gauge 12, and a working load limit of 155 lbs. each.	
 RVA-CS	8" Chain mounting set with 2 - "S" hook, 1 - chain, and 1 - 3" open eye screw to secure to structure. 12" structure spacing.	
REQUIRED CHAIN SETS PER HEATER (FOR 10' CENTERS)		
Model Length	10' 15-20' 25-30' 35-40' 45-50' 55-60' 65-70' 80'	
STRAIGHT*	4 5 6 7 8 9 10 11	
w/TF1B ("U")	N/A 6 8 8 10 10 12 12	
 S-HOOK	*Straight refers to models in a straight configuration (10' centers). THCS for HLV series: Three (3) per burner box; one (1) for each 10ft. tube section.	
 BK	"Brass Knuckles." Reflector mounting bracket that allows for mounting the reflector on specified angles. Attaches to TP19B wire hanger. Preset bends allow for a 15, 30, or 45 degree mounting angle. See chart below for quantity needed. BK attaches to standard hangers.	
REQUIRED BR-MAH FITTINGS PER HEATER		
Model Length	10' 20' 30' 40' 50' 60' 70' 80'	
STRAIGHT*	2 3 4 5 6 7 8 9	
w/TF1B ("U")	3 4 5 6 7 8 9 10	
 BRDG	Decorative Grill designed to encase radiant tubes. Attaches to reflector - use side clearance data. Mounts at 0-45 degrees. Finished in a highly polished aluminum casing and eggcrate bottom surface. 60" x 18" x 4.5". Field assembly required. Use DCSP chart for quantity required. Not for 'U' tubes.	

PART NO.	DESCRIPTION	LIST \$
 PG	Protective guard. Designed to attach to standard reflector. 5' long x 13-1/4" wide with 1-1/4" slots. Galvanized wire with slip-on style mounting channels. Typically used to prevent debris or objects from becoming lodged between radiant tube and reflector. Should be used when mounting heaters below 8 ft.	
REQUIRED GUARDS PER HEATER		
Model Length	10' 20' 30' 40' 50' 60' 70' 80'	
STRAIGHT*	2 4 6 8 10 12 14 16	
w/TF1B ("U")	N/A 4 6 8 10 12 14 16	
*Straight refers to models in a straight configuration. PG for HLV series: Two (2) for each 10 ft. tube section.		
 DCSP	Drop ceiling side panels. Polished one side bright. Used to direct infrared rays away from ceiling tiles. 62" in length, mounts with 2 zip screws to the heaters reflector. Shipped in sets of 2 pieces.	
REQUIRED BR-CRP PER HEATER (SETS)		
Model Length	10' 20' 30' 40' 50' 60' 70' 80'	
STRAIGHT	2 4 6 8 10 12 14 16	
 EC	Aluminum Egg Crate - 24" x 48". Designed to fit into a standard 2' x 4' ceiling tile opening. Crate has 1/2" x 1/2" openings and is 1/2" thick. Mounts 1-1/2" below the bottom of the tube. See chart below for quantity needed. Used in conjunction with DCSP (see above).	
REQUIRED ALUMINUM EGG CRATES PER HEATER		
Model Length	10' 20' 30' 40' 50' 60' 70' 80'	
STRAIGHT	3 6 9 12 15 18 21 24	

AIR COMPONENTS



 WIV-4	Wall inlet cap, 4" O.D. with bird screen. For use with outside air option. Bird screen insures open air flow to unit. Used for 0-20' of 4" intake.(Common on all models)	
 AIRH	4" flexible air inlet rubber hose with DWV adapter affixed. Mates to 4" DWV pipe. Clear color for visibility. Includes 4" DWV adapter and worm clamp. 18" in length.	


6 INCH VENT MATERIALS - DUAL VENT MATERIALS

PART NO.	DESCRIPTION	LIST \$
 SK-6	Field Controls 6 in. vent terminal with internal screen. Can only be used for <u>dual</u> side wall venting of V2 200,000 Btu/h models only . Diameter is 12.5 in.	
 YSM	Dual exhaust assembly, Y-shaped, 26 gauge galvanized steel with baffle. 4 in. O.D. x 6 in. O.D. x 4 in. O.D. Two adjustable elbows included to ease installation. For use when common venting two heaters. Heaters must share a common thermostat. Dimensions - 14 in. left-right, 13 in. high.	
 Y	Dual exhaust assembly, Y-shaped, 16 gauge aluminized steel. 4 in. O.D. x 6 in. O.D. x 4 in. O.D. Two tube clamps included. For use when common venting two heaters. Heaters must share a common thermostat. Dimensions - 21.5 in. left-right, 13 in. high.	
 RT	Dual exhaust assembly, r-shaped, 16 gauge aluminized steel with high temperature black coating 4 in. O.D. x 6 in. O.D. x 4 in. O.D. Two tube clamps included. For use when common venting two heaters that meet at a 90° angle. Heaters must share a common thermostat.	

Consult local codes when venting

CURRENT SINGLE STAGE THERMOSTATS




PART NO.	DESCRIPTION	LIST \$
 WR-S	White Rogers thermostat. 4.4° to 26.6°C range. White plastic cover, 120-277 VAC, 22.0 amps. May be used to switch either 120V, 240V, or 277V. Consult amp rating unit for proper sizing.	
 TF-115	Thermostat with rain tight enclosure and 40° to 100°F range. Rugged weatherproof control for use in agricultural, industrial and commercial environments with heavy moisture atmospheres. 16.0 FLA, 25.0 amps resistive at 120V. Watertight NEMA 4X when used with watertight connections (24, 120 or 220V). Consult amp rating of unit for proper sizing.	





PART NO.	DESCRIPTION	LIST \$
 TH-PSPLV	LuxPro 120V programmable line voltage thermostat. No relay transformer required. 5/2-day(4-period) operation. 45°-90°F range. Single stage operation, 16 Amp@ 120V (3 tube heaters max.) single pull. Features include °C/°F display, easy programming, timers, wall plate included and more. 120V only. Replaces PSP-510.	





TWO-STAGE CONTROLS

Hi-Low Relay Panels / Boards

Relay panels or boards must be used anytime two or more HL2, HL3, AG2, or LD3 heaters are operating on the same thermostat (or common vented). Relay boards (HLRB/HLRP) are (at the time of production) internally mounted into the burner box. This must be specified at the time of order. One board is needed per heater. An external transformer is needed to power the control. Relay Boards (HLRB/HLRP) are preferred over panels. **Specify the HLRP for HL3 models only.**

HLRB in burner box	HLRP in burner box	2 boards inside NEMA (1) box	4 boards inside NEMA (1) box	6 boards inside NEMA (1) box	10 boards inside NEMA (1) box
HLRB	HLRP	HLPNL-2	HLPNL-4	HLPNL-6	HLPNL-10
			NOTE: When placing an order, be sure to specify which models will receive the HLRB/P. Replacement parts order TP-825/1325.		

PART NO.	DESCRIPTION	LIST \$
 ET5MS	Columbus Electric two-stage, double throw, low or line voltage thermostat. 50°F to 90°F range (125, 250 or 277V). Non-adjustable, preset 2° high/low fire differential. UL Listed and CSA Certified.	
 TH-BRTS	Braeburn non-programmable 24V two-stage heat/1 cool thermostat. 1 Amp per terminal (3 Amp max. load) allows operation of up to 8 two-stage heaters w/ HLRB/HLRP boards and transformer. 45° to 90°F (7°-32°C) heat/cool range. Operates on either constant 24VAC or two (2) AA alkaline batteries. Digital display, adjustable differential.	
 TH-BR52	Braeburn two-stage or single-stage control with flexible programming for residential and commercial applications. 7 Day, 5-2 Day or Non-Programmable. 45°-90°F control range. Indoor or outdoor remote sensing capable. Multi-Level keypad lockout. Bright blue backlight. Hardwire or battery powered. Meets California Title 24 guidelines.	
 RS-BR53	Indoor sensor for use with TH-BR52 thermostat. Mounts up to 200 ft. away. Sense range of 40°-99°F depending on thermostat. Contemporary design for any decor.	

PART NO.	DESCRIPTION	LIST \$
 TH-109	Two-stage t-stat with rain tight enclosure. 40° to 100°F range. Rugged weatherproof control for use in agricultural, industrial, and commercial environments with heavy moisture atmospheres. Consult amp rating of unit for proper sizing. 24, 120, 208, 240 and 277 VAC.	
 PSP-722	Lux Pro programmable thermostat with large lighted one touch display. Operates on millivolt, 24V or two AA alkaline batteries. 2 or 4 selectable periods per day and vacation hold. 40°-90°F range. 2 amps at 24V AC. (20 heaters w/HLRP and 4000-01V). Single or dual stage operation. Adjustable temperature differential (.25-2.25). Features include °C/°F display, easy programming, vacation and timers.	
 RS-BR54	Outdoor sensor for use with TH-BR52 thermostat. Mounts outdoors up to 200 ft. away. Sense range capability of -40°-99°F depending on thermostat. Contemporary design for any decor. NOTE: Cannot be used in place of the indoor sensor.	
 RS-BR53BB	2 pc. black box to house the RS-BR53. Use for radiant sensing applications.	

STAINLESS STEEL ACCESSORIES

PART NO.	DESCRIPTION	LIST \$
TP-26D	304 grade stainless steel radiant tube. 16 gauge, 4 in. x 10 ft., high temperature black coated.	
TP-26E	409 stainless steel combustion tube. 16 gauge, 4 in. x 10 ft., high temperature black coated. (Limited stock)	
SSR	120 in. 304 grade, polished stainless steel reflector.	
SST-60	60 in. 304 grade stainless steel tube. 16 gauge, stainless steel. High temperature black coated.	
5EA-SUB-SS	This option will substitute one 10' piece of radiant tubing & reflector with two 5' pieces. One clamp and one hanger is included (4" accessories pending model # with 5EA-SUB-SS). This is ideal for making "U" heaters from 30', 50' & 70' models. Maximum one 5EA-SUB-SS per heater. This is an add-on option only.	
TF1B-SS	4 in. 304 grade stainless steel 180° U-shaped fitting, with high temp black coating See TF1B on page 4. Includes (1) stainless steel clamp, (1) TP-19C hanger, and (2) stainless steel reflector end caps with clips, galvanized spreader bar.	
RUP-SS	Reflector and "U" bend package - One TF1B-SS and one RU-SS.	
THCS-SS	30 in. stainless steel chain set with two "S" hooks. See THCS on page 5 for quantity required per heater.	

PART NO.	DESCRIPTION	LIST \$
RE-SS	304 grade stainless steel reflector elbow 90° bend to cover an elbow (E6) fitting (not included). Field assembly required. 27 in. x 27 in. square. (Specify 45° assembly)	
RU-SS	304 grade stainless steel reflector "U" to cover a TF1B "U" fitting (not included). Field assembly required. 27 in. x 27 in. square.	
SSR-60	60 in. 304 grade, polished stainless steel reflector.	
E6-SS	304 grade stainless steel elbow. 6" radius, 90° bend, 4" diameter, 16 gauge stainless steel with black coating. Includes (1) stainless steel tube clamp, and (1) stainless steel hanger.	
SSE-SS	304 grade stainless steel side shield extension. Used to direct infrared rays downward away from sidewalls and combustibles with (2) 0° mounting brackets, (8) screws. 62 in. long x 10.5 in. wide.	
BK-SS	Stainless steel "Brass Knuckles." Reflector mounting bracket attaches to wire hanger allowing the reflector to be mounted on a 15, 30 or 45 angle. See BK on page 5 for quantity required per heater.	
REP-SS	304 grade stainless reflector and elbow package - One RE-SS and one E6-SS. Consult IOM for minimum distance to burner. No end caps or clips included. (Specify 45° assembly)	

STAINLESS STEEL ADD-ON OPTIONS & UPGRADES

PART NO.	DESCRIPTION	LIST \$						
SSTAO	Stainless steel tube add-on upgrades existing radiant exchangers from titanium/ aluminized to 16 ga., 304 grade stainless steel tubes. HL2, DX2, HL3, DX3, AG1 & AG2 only. One needed per 10 ft. of tube. Sold as an add-on to an order.							
SSTAO-5	Upgrade a 5 ft. aluminized tube to 304 grade stainless steel.							
SSRAO	Specifying the stainless steel reflector add-on to your order upgrades the existing .025", aluminum reflectors to highly polished, 304 grade stainless steel reflectors. Only sold as an add-on to an order. One SSRAO is needed per 10 ft. of reflector. For use on all models.							
SSRAO-5	Upgrade a 5 ft. aluminized reflector to 304 grade stainless steel.							
SSTRAO	Stainless steel tube & reflector add-on upgrades existing tubes and reflectors to stainless steel. Sold as an add-on and <u>must</u> be specified at the time of order. HL2, DX2, HL3, DX3, AG2 & AG1 Series only.							
SSTRAO-5	Upgrade a 5 ft. aluminized tube & reflector to 304 grade stainless steel.							
SSREC	(2) Stainless steel Reflector end caps.							
REQUIRED STAINLESS STEEL ADD-ONS PER HEATER								
MODEL	10 Ft.	20 Ft.	30 Ft.	40 Ft.	50 Ft.	60 Ft.	70 Ft.	80 Ft.
STRAIGHT	1	2	3	4	5	6	7	8

PART NO.		DESCRIPTION					LIST \$	
SSCBAO		Upgrade control box housing to 304 grade stainless steel. Control box is silicone sealed, PC-36 added and electrical attachments are water-tight connections (i.e. T-Stat wire, power connection) For HL2, DX2, AG2, AG1 models only.						
SSTAO-16		16 in. tube is upgraded to stainless without purchase of tube add-ons. For HL2, DX2, AG2, AG1 models only.						
SSC-##		Stainless steel tube clamps. Upgrade standard 4 in. galvanized steel tube clamps to 304 grade stainless steel.					\$ _____ See below	
-10 N/A	-20	-30	-40	-50	-60	-70	-80	
SSB-##		Stainless steel mounting brackets. Upgrade standard galvanized steel 4 in. wire hanger (TP-19C) and 4 in. RCS (TP-829) to stainless steel. Prices shown below are per heater. (BR-4HGR/SS) (BR-4IH/SS)					\$ _____ See below	
-10 N/A	-20	-30	-40	-50	-60	-70	-80	






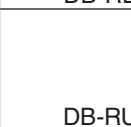






TP-19C	Stainless steel 4 in. wire hangers.	
TP-829	Stainless steel 4 in. reflector center support	

IMPORTANT NOTES

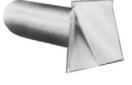














- SSCBAO is only available for the HL2, DX2, CL and CX Series.
- Upgrading tubes (SSTAO or SSTRAO) is available for HL2, DX2, HL3, DX3, AG2, and AG2 series only. **Only available on 75,000 -150,000 BTU/H**
- Upgrading reflectors (SSRAO) is available for all models.

When placing orders, please specify which heaters are to be upgraded.

ACCESSORIES USED ONLY ON 3-INCH TUBE MODELS








PART NO.	DESCRIPTION	LIST \$	PART NO.	DESCRIPTION	LIST \$
 DB-TF1B	180° bend (U) shaped fitting, used to make the heater into a U shaped configuration. 16 gauge aluminized steel, 3 in. diameter fitting, with high temperature black coating. Also included: 1 tube clamp, 1 wire hanger, 1 spreader bar. For use on a 3 in.-20 ft. model.		 DB-E6	Elbow package - 90° bend, 3 in diameter, 16 gauge aluminized steel elbow with high temperature black coating. Includes 1) 3" tube clamp, 1) 3" hanger. (Specify 45° assembly)	
 WVE-3	3 in. O.D. galvanized steel vent outlet cap with flapper. Flapper insures proper static pressure for proper unit operation. Must be used in unvented applications. Not for use in residential applications (all residential heaters must be externally vented).		 DB-REP	Reflector and elbow package - 90° bend, 3 in., 16 gauge aluminized steel elbow with high temperature black coating and polished, one side bright reflector elbow, one 3 in. tube clamp, and one hanger. (Specify 45° assembly)	
 DB-208	3 in. Duravent vent cap. Used for sidewall venting of the 3 in. Series models. Diameter is 7-3/4 in.		 DB-RUP	Reflector and 3" O.D. 180° U-bend package. One DB-TF1B and one RU reflector cover. Polished one side bright. Reflectors cannot be rotated after installation of this accessory. Field assembly required. (Specify 45° assembly)	
18 in.  48 in. DB-209	3 in. x 18 in. (48 in.) doublewall B-vent. Used for penetrations through combustible walls or roofs while venting 3 in. models.		 DB-SC	3 in. storm collar. For use with 3 in. venting through the roof. Prevents rain from entering flashing. Galvanized steel construction.	
 DB-BVP	3 in. wall thimble. Used in conjunction with B-vent for penetrations through combustible walls and/or roofs.		 DB-YSM	Dual exhaust assembly, "Y" shaped, 26 gauge galvanized steel, 3 in. O.D. x 4 in. O.D. x 3 in. O.D. Units connect at a 90° angle to the 3 in. leg. 4 in. vent connection is crimped for ease of vent hook-up. Adjustable elbows are not included. Heaters must share a common thermostat.	
 DB-210	3 in. Duravent B to C adapter. This union is used to join C-vent with B-vent.		 DB-DSK-48	3 in. vent package. Complete sidewall venting kit for lengths up to 12 feet. Includes: 1) DB-208, 1) DB-209, 1) DB-210, 1) DB-211, 1) DB-SC. 30 in. assembled length. For the DB-DSK-48 sub the DB-208 for a DB-BVP 48 in. assembled length.	






4 INCH VENT MATERIALS

PART NO.	DESCRIPTION	LIST \$	PART NO.	DESCRIPTION	LIST \$
 WVE-GALV	Galvanized steel vent outlet cap 4 in. O.D. with flapper. Flapper insures proper static pressure for proper unit operation. Must be used with unvented units.		 DHC-4	4 in. draft hood connector. B-C adapter for connecting vent pieces.	
 SWD-4	4" Duravent sidewall vent cap. All aluminum construction. Diameter is 8-3/4 in.		 SC-4	4 in. storm collar. For use with 4 in. venting through the roof. Galvanized steel. Prevents rain from entering flashing.	
 WT-4	4 in. wall thimble. Protection for venting through a sidewall application. Measures 8.5 in. outer diameter, 6.5 in. inner diameter. Adjustable 4 in. to 6 in. depth.		 TF-9	4 in. side wall vent terminal with screen. 16 gauge aluminized steel construction, 18 in. long, one 4 in. clamp, Bird screen on exhaust end. Not approved on 200,000 Btu/h models.	
 SK4	Field Controls 4 in. vent terminal with internal screen. For use when side wall venting. V2 200,000 Btu/h models only. Diameter is 10.25 in.		 4-DSK	4 in. Duravent sidewall vent kit with all items for sidewall venting. Includes: SWD-4, WT-4, 18BV-4, DHC-4, SC-4. No vent pipe material is included. 29 in. long when fully assembled. NOT APPROVED FOR V2 200,000 Btu/h MODELS.	
 SK4-VK	V2 200,000 Btu/h model vent kit. same as 4-DSK, substitute SK4 for SWD-4.		 BR-4-VK-36	4 in. Duravent vent kit with all items for sidewall venting. Includes: SWD-4, WT-4, BR-36-BV, BV-4, DHC-4, SC-4. No vent pipe material is included. 47 in. long when fully assembled.	
18BV-4	4 in. Doublewall B-vent. Used for penetrating through combustible wall and/or roofs. 18 in. long.		 BR-4-VK-48	4 in. Duravent vent kit with all items for sidewall venting. Includes: SWD-4, WT-4, BR-48-BV, DHC-4, SC-4. No vent pipe material is included. 59 in. long when fully assembled.	
 BR-36-BV	4 in. Doublewall B-vent. Used for penetrating through combustible wall and/or roofs. 36 in. long.		 BR-4-VK-60	4 in. Duravent vent kit with all items for sidewall venting. Includes: SWD-4, WT-4, BR-60-BV, DHC-4, SC-4. No vent pipe material is included. 71 in. long when fully assembled.	
 BR-48-BV	4 in. Doublewall B-vent. Used for penetrating through combustible wall and/or roofs. 48 in. long.				
 BVP-4	4 in. Doublewall "B" type vent. Used for penetrating through combustible wall and/or roofs. 60 in. long.				



Consult local codes when venting

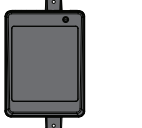


ADVANCED CONTROL OPTIONS

PART NO.	DESCRIPTION	LIST \$
 TH-1F95-TS	White Rogers Programmable MV-30V, single or two stage, touch-screen display thermostat with remote sensing. Adjustable temperature differential (0.6-1.2). 4 and 2 period; 7 or 5+1+1 day programming options. 1.5 amps per terminal allows operation of up to 30 two-stage heaters w/ HLRB boards and transformer. Used with one (1) remote sensor (RS-F145).	
 RS-F145	Remote sensor for use with TH-1F95-TS. For indoor use only. Sensor can be placed up to 200 feet away.	
 RS-F145-OD	Remote sensor for use with TH-1F95-TS. For outdoor use. Sensor can be placed up to 200 feet away.	
 TH-HWC2	Electronic temperature controller with 2 temperature inputs, 4 SPDT relays, single or two stage. 1 RS-SIS sensor included. 24,120 240V°F, max 2 sensors, heaters require 24VAO or HLRP.	
 RS-ODS	Remote 1097 ohm outdoor air temperature sensor for use with TH-HWC2 (probe mounted in weather-proof case).	
 RS-SIS	Remote 1097 ohm indoor air temperature sensor (probe only). For use with TH-HWC2.	
 RS-WRS	Wall mount remote 1097 OHM air sensor for use with TH-HWC2 (probe mounted in case).	

PART NO.	DESCRIPTION	LIST \$
 DMCO Building Management System	State-of-the-art pre-programmed building management controller panel. Use as a stand-alone unit or part of an overall building management system. Features include a password protected LCD user interface with keypad, 4 daily set-points, runtime tracking, ability to label each zone, expandable, housed in a stylish and durable enclosure.	See 32, 74 & 116 interfaces below
PCOXS-32	Designed to handle small applications. Accommodates up to 3 single stage / 2 dual stage heater zones. Maximum of 20 single stage / 10 dual stage heaters per zone.	
PCOXS-74	Designed to handle mid-sized applications. Accommodates up to 7 single stage / 4 dual stage heater zones. Maximum of 20 single stage / 10 dual stage heaters per zone.	
PCOXS-116	Designed to handle large applications. Accommodates up to 11 single stage/6 dual stage heater zones. Maximum of 20 single stage/10 dual stage heaters per zone.	
 PCOXS-OP	Optional wall mounted display enables users to communicate with the PCOXS Controller up to 1600ft. away. Operator panel offers a graphic display providing management of each zone. User-friendly keypad allows zone parameters to be accessed and modified.	
 PCOXS-RS	Deluxe wall mount 24V remote temperature sensor. 14°F to 158°F temperature range. Delivers a 4-20mA signal to controller up to 300 ft. 10Kohm.	
 PCOXS-ODRS	Outdoor deluxe wall mount 24V remote temperature sensor. 14°F to 158°F temperature range. Delivers a 4-20mA signal to controller up to 300 ft. 10Kohm.	
 BBS-AO	Black bulb sensor add-on. Upgrade remote sensor to be enclosed in a black bulb for jobs that require radiant temperature sensing inside a black bulb. This is compatible with controls that have temperature probes that can fit inside of the bulb casing. Contact factory for guidance.	

ELECTRICAL COMPONENTS AND MISCELLANEOUS CONTROL DEVICES

PART NO.	DESCRIPTION	LIST \$
 4000-01V	40 VA transformer 120-24V. AC primary & secondary. Mounted on 4 x 4 base plate. Can be used for all 24V heaters or controls manufactured or provided by Detroit Radiant Products.	
 WEP-TS	Weatherproof enclosure package with 4-hour timer and on-off control. Ideal for use in outdoor heating applications where timer control is desired. Package for two-stage scenarios. Can operate up to 120V-20 amp. Can also be used for 24V switching. Field assembly and wiring required.	

PART NO.	DESCRIPTION	LIST \$
 ERK	The External Relay Kit accessory can be used on HL3, HL2, LS3 & LD3 models that require multiple heaters on one thermostat. This can mount on or near the heater. One ERK is needed per heater. Used in standard environments.	
 ERK-HE	Similar to ERK but utilizes a very rugged Nema 6P rated enclosure for use in wet and corrosive environments.	
 R8285R	Combination relay transformer, dual pole 15 resistive amps each pole. For controlling 120V units with 24V thermostats. 120V power in, 24V power out. For DES3 24V control option.	

BURNER PRICING*		
PART NO.	DESCRIPTION	LIST \$
BRN-FT-BTU-GAS-MP	MP Series Burner, Hose & Baffle	
BRN-FT-BTU-GAS-HL2	HL2 Series Burner, Hose & Baffle	
BRN-FT-BTU-GAS-HL3	HL3 Series Burner, Hose & Baffle	
BRN-FT-BTU-GAS-DX2	DX2 Series Burner, Hose & Baffle	
BRN-FT-BTU-GAS-DX3	DX3 Series Burner, Hose & Baffle	
BRN-FT-BTU-GAS-DET3	DET3 Series Burner, Hose & Baffle	
BRN-FT-BTU-GAS-DES3	DES3 Series Burner, Hose & Baffle	
BRN-FT-BTU-GAS-LD3	LD3 Series Burner, Hose & Baffle	
BRN-FT-BTU-GAS-LS3	LS3 Series Burner, Hose & Baffle	
BRN-FT-BTU-GAS-AG2	AG2 Series Burner, Hose & Baffle	
BRN-FT-BTU-GAS-AG1	AG1 Series Burner, Hose & Baffle	

* Please state Model/Length/BTU/Gas

*Component burners do not include any mounting accessories.

NOTE: CL, CX Series burners are not sold separately.

ADDITIONAL KIT PRICING		
PART NO.	DESCRIPTION	STANDARD LIST \$
DB-10Kit	10 Ft. Full 3" Mounting Kit	
DB-20Kit	20 Ft. Full 3" Mounting Kit	
DB-30Kit	30 Ft. Full 3" Mounting Kit	
10-Kit	10 Ft. Full 4" Mounting Kit	
20-Kit	20 Ft. Full 4" Mounting Kit	
30-Kit	30 Ft. Full 4" Mounting Kit	
40-Kit	40 Ft. Full 4" Mounting Kit	
50-Kit	50 Ft. Full 4" Mounting Kit	
60-Kit	60 Ft. Full 4" Mounting Kit	
70-Kit	70 Ft. Full 4" Mounting Kit	
80-Kit	80 Ft. Full 4" Mounting Kit	

Additional Mounting Kit includes applicable hangers, clamps and center supports. Also included is (1) RH-1 or RH-3, (2) reflector end caps, and (8) clips. **Note:** Kits for 150-200 MBH models receive one stainless steel tube clamp.

LIMITED WARRANTY GUIDELINES AND OPTIONS****

All limited warranties, are defined in the product insert manual for the particular series of heaters. Please contact the factory for further information on the terms and conditions.

STANDARD WARRANTY	BURNER BOX COMPONENTS	TUBES/ EXCHANGERS	BURNER
DX2, DX3, CL, CX	1 YEAR	5 YEARS	10 YEARS
LD3, LS3, SV	1 YEAR	3 YEARS	5 YEARS
DET3, DES3	1 YEAR	2 YEARS	3 YEARS
HLV***	1 YEAR	5 YEARS	10 YEARS
HL2, HL3	3 YEARS	5 YEARS	10 YEARS
AG1	1 YEAR	5 YEARS	10 YEARS
AG2	3 YEARS	5 YEARS	10 YEARS

EXTENDED WARRANTY OPTIONS****	
CWO	Control Extended Warranty Option. (Max. 4 year extension) (net) per year, per heater.
EWO	Exchanger Extended Warranty Option. (Max. 10 year total or 5 year extension) (net) per year, per tube.
VPWO:	HLV Vacuum Pump Extended Warranty Option. (Max. 5 year total or 4 year extension) (net) per year, per pump.

**** Prior approval from the factory is required when quoting extended warranties.

*** Vacuum pump - 1 year.

IN HOUSE GAS CONVERSIONS

S1-CONV.	Converting a single stage heater from LP to Natural Gas or Natural Gas to LP. Kit includes 1 gas valve, 1 burner orifice, 1 air collar and 1 new rating label. Model and serial number must be specified. Conversion can be made depending on age and condition of heater.	
S2-CONV.	Converting a two stage heater from LP to Natural Gas or Natural Gas to LP. Kit includes 1 gas valve, 1 burner orifice, 1 air collar and 1 new rating label. Model and serial number must be specified. Conversion can be made depending on age and condition of heater.	